



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
SOUTHEAST REGIONAL OFFICE  
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

ARLEEN O'DONNELL  
Commissioner

July 24, 2007

Mr. Dan Mahoney, Superintendent  
Sandwich Water District  
P.O. Box 600  
72 Tupper Road  
Sandwich, Massachusetts 02563

RE: SANDWICH – Cape Cod Basin  
SANDWICH WATER DISTRICT  
Program: Water Management Act  
Action: Permit Modification and 5-Year  
Review  
Activity: Permit #9P2-4-22-261.01

Dear Mr. Mahoney:

Please find attached the following:

- Findings of Fact in Support of the Final Modified Permit Decision; and,
- Final Water Management Act Permit Modification #9P2-4-22-261.01 for the Sandwich Water District.

If you have any questions regarding the permit, please contact Terry Martin at 508-946-2765 or email at [Therese.Martin@state.ma.us](mailto:Therese.Martin@state.ma.us).

Very truly yours,

Richard J. Rondeau, Chief  
Drinking Water Program  
Bureau of Resource Protection

R/TM/cb

cc: Sandwich Board of Selectmen  
Sandwich Board of Health

cc: William C. Henchy  
165 Cranberry Highway  
Orleans, MA 02653

File Name: Y:\DWP Archive\SERO\Sandwich-9P242226101-WMA-2007-07-24  
Tm/22Sandwichfinalpermit07

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

DEP on the World Wide Web: <http://www.mass.gov/dep>



Printed on Recycled Paper

Communication for Non-English Speaking Parties (310 CMR 1.03(5)(a))

English

This document is important and should be translated immediately.

**Spanish**

*Este documento es importante y se debe traducir inmediatamente.*

**Portuguese**

*Este original é importante e deve ser traduzido imediatamente.*

**Italian**

*Questo documento è importante e dovrebbe essere tradotto immediatamente.*

**Greek**

Αυτό το έγγραφο είναι σημαντικό και πρέπει να μεταφραστεί αμέσως.

**French**

*Ce document est important et devrait être traduit immédiatement.*

Chinese (traditional)

這個文件重要和應該立刻被翻譯。  
这个文件重要和应该立刻被翻译。

**Findings of Fact in Support of Final Permit Decision  
Water Management Act Permit Modification and 5-Year Review  
RE: Water Management Permit 9P2-4-22-261.01  
Sandwich Water District**

The Department of Environmental Protection (the Department or MassDEP) has completed the 5-year review of the Sandwich Water District permit in the Cape Cod Basin pursuant to the Water Management Act (WMA), M.G.L. ch. 21G. After having completed the regulatory notice and review, the Department hereby issues the attached withdrawal permit. This compliance review is conducted to insure that the terms of the permit and the goals of the Water Management Program are met.

To further these goals, promote the reasonable and appropriate use of water, and to protect the environmental resources of the Commonwealth, the Department was given the authority to modify permits at any time when it determines that such action is necessary for the promotion of the purposes of the Act, 310 CMR 36.29(2).

**Sandwich Water District Withdrawal History**

The Sandwich Water District is authorized to withdraw from the Cape Cod Basin a total of 2.64 million gallons per day (MGD) through November 30, 2010, provided the registration is renewed by January 1, 2008. The Sandwich Water District currently operates ten sources. Four of these sources, Wells #2, 3, 4 and 5 (4261000-02G, 03G, 04G and 05G) are registered for an average volume of 0.77 mgd. These wells are also permitted, along with Wells # 6, 7, 8, 9, 10 and 11. The original permit was issued in January of 1992, and included Wells #6, 7, and 8. Wells # 9, 10 and 11 were subsequently added through permit amendments. In addition to these sources, the system also has an agreement to purchase water from the Upper Cape Cooperative water supply. This agreement is not intended to increase overall water use in the area but instead is based upon the projected need of the neighboring water systems to supplement existing sources, provide redundancy to existing source capacity potentially impacted by contamination emanating from the Massachusetts Military Reservation, and to replace the capacity of proposed sources already lost to contamination.

**The Water Management Act**

The Act requires that the Department issue permits that balance a variety of factors including:

- Reasonable protection of existing water uses, land values, investments and enterprises;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

To better achieve the balance of competing water uses mandated by the Act, the Department has adopted the "Water Management Policy For Permit and Permit Amendment Applications and 5-Year Review, Effective Date: April 2, 2004" and the "Guidance Document for Water Management Act Permitting Policy, Effective Date: January 17, 2006". The Policy, WMA Policy #: BRP/ DWM/DW/P04-1, and Guidance, Guidance #BRP/DWM/DW/G05-01, can be found on the Department's web site at <http://www.mass.gov/dep/brp/wtrm/wtrmregs.htm>. The Policy and Guidance identify specific

Performance Standards and conditions to be applied to new Water Management permits and to existing permits at the time they are amended, during 5-year permit review or permit renewal. The Department has applied these Performance Standards and conditions in Sandwich Water District's permit.

### **Findings of Fact for the Performance Standards in Sandwich Water District's Water Management Permit Amendment**

As required by MGL c 21G, s 11 and 310 CMR 36.00, the Department makes the following Findings of Fact in support of the Permit amendment, and includes herewith its reasons for approving the Permit amendment and for imposing the conditions of approval.

In applying the Performance Standards in Water Management permits, the Department relies primarily upon the determinations of relative stress established by the Water Resources Commission's (WRC) Stressed Basins Report approved December 13, 2001. The Department also reviews other available research, such as reports by the United States Geological Survey, the Department's Watershed Water Quality Assessment Reports and any other pertinent reports available for specific river basins.

The Sandwich Water District's sources are located in the Cape Cod Basin, which has been identified as unassessed by the Water Resources Commission. The policy established the following performance standards for all permittees that withdraw water from unassessed river basins:

1. Residential per capita water use (RGPCD) of 80 gallons per day or less;
2. Unaccounted for (UAF) water of 15% or less.

The map of stressed basins can be reviewed at the following link:

<http://www.mass.gov/dep/brp/wtrm/files/stresmap.htm>.

The standards set forth above shall hereinafter be referred to collectively as the "Basin Performance Standards." The reporting requirements added in the Permit are intended to standardize the information submitted to the Department to assess compliance with the Permit and the Basin Performance Standards. The Permit contains a requirement that these performance standards be met within two full calendar years following issuance of the permit. Failure to meet these standards in the future will require implementation of additional water conservation measures, and may result in enforcement by the Department.

The Performance Standards of 80 gallons per day or less for residential per capita daily water use and 15% or less for unaccounted for water are reasonable standards as reflected by the fact that average values in 2005 for Massachusetts were 71 RGPCD, and 11% UAW. Because of the large variation in summer versus winter population (17,750 vs 2,500), it is difficult to accurately calculate Sandwich Water District's and other Cape public water suppliers' RGPCD values. The Department will continue to work with Public Water Suppliers and others to standardize the methodology for calculating that value. Sandwich Water District's unaccounted-for water is documented at 7.8%. While these Performance Standards represent minimum standards required for compliance with Sandwich Water District, the Department believes that the cumulative effect of complying with all the terms and conditions of its Permit will enable Sandwich Water District to meet the Performance Standards.

### **Findings of Fact for Specific Permit Conditions**

In issuing permits in the Cape Cod Basin, the Department looked primarily at site-specific impacts and other issues specific to the system, such as impacts to nearby surface waters, wetlands, or other water

users, justification of long-term demand projections and the capacity of permitted withdrawal points. The conditions are intended to ensure the efficient use of water and to mitigate the potential impact of withdrawals.

**Special Condition 1, Authorized Annual Average Withdrawal Volume**, reflects the registered withdrawal volume of 0.77 million gallons per day (MGD) and a permitted increase of 1.87 MGD, for a total authorized volume of 2.64 MGD through November 30, 2010. Sandwich Water District's actual water use has been substantially below this value. Actual use between 2000 and 2005 ranged from 1.672 MGD to 1.934 MGD for an average 1.760 MGD. The authorized withdrawal volumes included in the permit are based on water use projections prepared by the Department of Conservation and Recreation, Office of Water Resources.

Based upon the reported withdrawals for the years 2000 to 2005, the Sandwich Water District's total withdrawal volumes are significantly below those authorized in Special Condition 1 of your permit and registration. The Department requested a discussion of the discrepancy between your actual system demand versus the projected demand reflected in your current permit. In response to that request, the Department received information including a detailed analysis of anticipated system demand, presented in a Water Demand Study prepared by Metcalf & Eddy, and a description of potential proposed connections. On the basis of this information, no revision to your authorized withdrawal volume is necessary at this time. The Department will be reviewing your overall demand in 2010 as part of any permit renewal process.

Sandwich Water District has an agreement which allows it to purchase water from the Upper Cape Cooperative water supply. Sandwich's overall water use, whether through withdrawal from their own registered and permitted sources and/or from a purchase of water from the Upper Cape Cooperative supply, is limited to the volumes authorized in this condition.

**Special Condition 2, Maximum Authorized Daily Withdrawal Volumes from Each Withdrawal Point**, reflects the volume of groundwater withdrawal expressed as a daily rate for each source included in Sandwich Water District's permit, according to Department approved Zone II rates.

**Special Condition 3, Zone of Contribution (Zone II or Zone III Delineations)**

Requirement has been met and no further delineations are required as a condition of this permit.

**Special Condition 4, Wellhead Protection**

Requirement has been met and no further wellhead protection measures are required as a condition of this permit.

**Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use**

Discussed previously.

**Special Condition 6, Performance Standard for Unaccounted for Water**

Discussed previously.

**Special Condition 7, Water Conservation Requirements**

Incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the WRC in July 1996.

**Special Condition 8, Requirement to Report Raw Finished Water Volumes**, ensures that the information necessary to evaluate compliance with the conditions included herein as accurately reported.

The summary of Permit conditions above as part of the Department's findings of fact is not intended to, and should not be construed as modifying any of the Permit conditions. In the event of any conflict or ambiguity between this letter and the Permit, and Permit language shall control.



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
SOUTHEAST REGIONAL OFFICE  
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

ARLEEN O'DONNELL  
Commissioner

**WATER WITHDRAWAL PERMIT**  
**MGL c 21G**

This permit is issued pursuant to the Massachusetts Water Management Act for the sole purpose of authorizing the withdrawal of a volume of water as stated below and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

---

**PERMIT NUMBER:** 9P2-4-22-261.01

**RIVER BASIN:** Cape Cod

**PERMITTEE:** Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

**ISSUANCE DATE:** 2/1/1992

**MODIFICATION DATE:** 7/24/2007

**EXPIRATION DATE:** 11/30/2010

**TYPE AND NUMBER OF WITHDRAWAL POINTS:**

Groundwater: 10  
Surface Water: 0

**USE:** Public Water Supply

**DAYS OF OPERATION:** 365

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

DEP on the World Wide Web: <http://www.mass.gov/dep>



Printed on Recycled Paper

**LOCATION(S):**

**Table 1: Withdrawal Point Identification**

Well Name	PWS Source ID Code
Well #2	4261000-02G
Well #3	4261000-03G
Well #4	4261000-04G
Well #5	4261000-05G
Well #6	4261000-06G
Well #7	4261000-07G
Well #8	4261000-08G
Well #9	4261000-09G
Well #10	4261000-10G
Well #11	4261000-11G



## **SPECIAL CONDITIONS**

### **1. Maximum Authorized Annual Average Withdrawal Volume**

This permit authorizes the Sandwich Water District to withdraw water from the Cape Cod Basin at the rate described below (Table 2). The volume reflected by this rate is in addition to the 0.77 million gallons per day (MGD) previously authorized to the Sandwich Water District Water District under Water Management Act registration #4-22-261.01 for withdrawal from the Cape Cod Basin. The permitted volume is expressed in millions of gallons, both as an average daily withdrawal rate per year and as a total annual withdrawal volume for each of the five-year periods of the permit term.

The Department will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes.

**Table 2: Maximum Authorized Withdrawal Volumes**

				<b>Total Raw Water Withdrawal Volumes</b>			
				<b>Permit</b>		<b>Total of Permit and Registration</b>	
				Daily Average (mgd)	Total Annual (mgy)	Daily Average (mgd)	Total Annual (mgy)
<b>Five Year Periods</b>							
Period Two Years 6-10	04/11/1996	To	11/30/2000	1.58	576.70	2.35	857.75
Period Three Years 11-15	12/01/2000	To	11/30/2005	1.74	635.10	2.51	916.15
Period Four Years 16-20	12/01/2005	To	11/30/2010	1.87	682.55	2.64*	963.60*

\* Volumes noted are only in effect if no change to the registered volumes occurs at the January 1, 2008 registration renewal date.

- Sandwich Water District's overall water use, whether through withdrawal from their own registered and permitted sources and/or from a purchase of water from the Upper Cape Cooperative supply is limited to the above volumes.

### **2. Maximum Authorized Daily Withdrawal Volumes**

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volume listed below (Table 3) without specific advance written approval from the Department. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

**Table 3: Maximum Authorized Withdrawal Volumes**

<b>Well Name</b>	<b>PWS Source ID Code</b>	<b>Maximum Daily Rate MGD)</b>
Well #2	4261000-02G	0.65
Well #3	4261000-03G	0.65
Well #4	4261000-04G	1.00
Well #5	4261000-05G	1.00
Well #6	4261000-06G	1.00
Well #7	4261000-07G	1.00
Well #8	4261000-08G	1.00
Well #9	4261000-09G	1.00
Well #10	4261000-10G	1.01
Well #11	4261000-11G	1.00

**3. Zone of Contribution (Zone II or Zone III) Delineations**

Department records show that Wells # 2,3,4,5,6, 7, 8, 9, 10 and 11 have DEP approved Zones of Contribution. Therefore, no further Zone of Contribution work is required as a condition of this permit.

**4. Wellhead Protection**

Sandwich Water District records indicate that the Sandwich Water District has adopted land use controls and water supply protection measures meeting the requirements of 310 CMR 22.21(2) in the Zone II's of Wells 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11. Therefore, no further wellhead protection work is required as a condition of this permit.

**5. Performance Standard for Residential Gallons per Capita Day Water Use**

Sandwich Water District's Performance Standard for Residential Gallons Per Capita Day (RGPCD) is 80 gallons. Sandwich Water District shall be in compliance with the Performance Standard by December 31, 2009. Sandwich Water District shall report its RGPCD water use annually in its Annual Statistical Report (ASR) and document compliance with this Performance Standard in its ASR for 2009 and each year thereafter.

Sandwich Water District shall report its RGPCD and the calculation used to derive that figure as part of its ASR including, without limitation, the source of the data used to establish the service population and the year in which this data was developed. See Appendix A for additional information on the requirements if the Performance Standard for RGPCD is not met.

**6. Performance Standard for Unaccounted for Water**

Sandwich Water District's Performance Standard for Unaccounted for Water (UAW) is 15% of overall water withdrawal. Sandwich Water District shall be in compliance with the Performance Standard by December 31, 2009. Sandwich Water District shall report its UAW annually in its Annual Statistical Report (ASR) and document compliance with this Performance Standard in its ASR for 2009 and each year thereafter.

Sandwich Water District shall report its UAW and the calculation used to derive that figure as part of its ASR. UAW is defined as the difference between water pumped or purchased and water that is metered or confidently estimated. UAW shall include, without limitation, water that cannot be accounted for due to meter problems, unauthorized hydrant openings, unavoidable leakage, recoverable leakage, illegal connections, stand pipe overflows, and fire protection where it cannot be confidently estimated. The need for water main flushing and the use of water in construction or meter calibration shall be metered or estimated as appropriate to assist in determining actual demand. Volumes flushed to waste shall be reported on Sandwich Water District' ASR. See Appendix B for additional information on requirements if the Performance Standard for UAW is not met.

## 7. Water Conservation Requirements

At a minimum, Sandwich Water District shall implement the following conservation measures (Table 4). The Department recognizes that Sandwich Water District is currently implementing a number of these requirements. Compliance with the water conservation requirements shall be reported to the Department upon request or at the time of Permit Renewal unless otherwise noted below.

**Table 4: Minimum Water Conservation Requirements**

<b><u>System Water Audits and Leak Detection</u></b>
1. At a minimum, conduct a full leak detection survey every three years.
2. Perform a leak detection survey of the entire distribution system within one year whenever the percentage of unaccounted for water increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, Sandwich Water District shall submit to the Department for its review a report detailing the leak detection survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
3. Conduct field surveys for leaks and repair programs in accordance with the <i>AWWA Manual 36</i> .
4. Sandwich Water District shall have repair reports available for inspection by the Department. Sandwich Water District shall establish a schedule for repairing leaks that is at least as stringent as the following: <ul style="list-style-type: none"><li>- Leaks of three (3) gallons per minute or more shall be repaired as soon as possible, and in any event within three (3) months of detection.</li><li>- Leaks of less than three (3) gallons per minute at hydrants and appurtenances shall be repaired as soon as possible.</li><li>- Leaks of less than three (3) gallons per minute shall be repaired in a timely manner, but in no event more than six (6) months from detection, except that leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway.</li></ul> Leaks shall be repaired in accordance with Sandwich Water District' priority schedule including leaks up to the service meter. However, in the event that the landowner is unwilling or unable to repair leaks between the property line and the service meter in accordance with Sandwich Water District' schedule, Sandwich Water District shall repair such leaks within seven (7) days of obtaining either: (1) the written consent of the landowner; or (2) a warrant authorizing access to the property to make the necessary repair. Sandwich Water District shall exercise best efforts to obtain the written consent of the landowner or a warrant authorizing access to the property to make the necessary repair.
5. If the difference between the quantity of the raw water entering each treatment plant and the quantity of the finished water entering the distribution system from each treatment plant exceeds

5%, Sandwich Water District shall submit to the Department for its review and approval a scope of work and schedule for conducting a water audit of the treatment plant by December 31<sup>st</sup> of the year following the exceedance. The scope of work for the water audit shall provide for a comprehensive evaluation of the operations of the treatment plant and include a schedule for completing the evaluation. Sandwich Water District shall conduct the water audit in accordance with the scope of work and schedule approved by the Department. Within 60 days of completing the water audit of the treatment plant, Sandwich Water District shall submit to the Department for its approval a report documenting the results of the water audit, the recommended actions to save water during the treatment process, and the schedule for implementing the recommended actions. Sandwich Water District shall implement such actions as approved by the Department and in accordance with the schedule approved by the Department.

**Metering**

1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Sandwich Water District reports its system is 100% metered. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards as set forth in *AWWA Manual M6 – Water Meters*, by the next 5 year review date.
3. Sandwich Water District reports an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by your customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections. The plan shall continue to include placement of sufficient funds in Sandwich Water District' annual water budget to calibrate, repair, or replace meters as necessary.

**Pricing**

1. Sandwich Water District must continue to implement a water pricing structure that includes the full cost of operating the water supply system. Evaluate rates every three to five years and adjust costs as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.

**Table 4 Continued: Minimum Water Conservation Requirements**

<p><b><u>Pricing continued</u></b></p>
<p>1. Sandwich Water District shall not use decreasing block rates. Decreasing block rates which charge lower prices as water use increases during the billing period, are not allowed by M.G.L. Chapter 40: Section 39L.</p>
<p><b><u>Residential and Public Sector Conservation</u></b></p>
<p>1. Sandwich Water District shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.</p>
<p>2. Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.</p>
<p>3. Municipal buildings</p> <ul style="list-style-type: none"> <li>• By <b>January 1, 2008</b>, submit to the Department a status report detailing which municipally owned public buildings in the Sandwich Water District service area have been retrofitted with water saving devices (faucet aerators, low flow shower heads and low flow toilets) and which of those buildings have yet to be retrofitted, along with a schedule to complete the retrofitting by <b>January 1, 2012</b>.</li> <li>• On or before <b>January 1, 2012</b>, Sandwich Water District shall ensure that all municipally owned public buildings in the service area are retrofitted, or demonstrate to the Department's satisfaction that a "Best Effort" was made by Sandwich Water District to get the Town to make those retrofits in accordance with the schedule submitted above.</li> </ul> <p>Note municipally owned public buildings that may be scheduled for rehab or demolition after the <b>January 1, 2012</b> deadline for completing the retrofits, may with the Department's approval, be exempted from this condition based on the schedule of work. Status report required above should identify those buildings and schedule for repairs/demolition.</p>
<p><b><u>Industrial and Commercial Water Conservation</u></b></p>
<p>1. Sandwich Water District shall review the use records for its industrial, commercial and institutional water users and develop an inventory of the largest water users. Sandwich Water District shall continue to implement an outreach program designed to inform and (where appropriate) work with its industrial, commercial and institutional water users on ways to reduce their water use. Such outreach plans can include, but are not limited to: information on water audits, meter sizing, water reuse, low-flow plumbing fixtures, mandatory outdoor water use restrictions, suggestions for contacting trade associations for process specific information on water use reductions, and information on contacting the Executive Office of Environmental Affairs Office of Technical Assistance for Toxics Use Reduction (OTA) which offers a range of assistance and information to help facilities improve water use efficiency and reduce wastewater discharge. OTA can be contacted at (617) 626-1060 or at <a href="http://www.mass.gov/envir/ota">www.mass.gov/envir/ota</a>.</p>
<p>2. Upon request by the Department, Sandwich Water District shall report on industrial, commercial and institutional water conservation including the results of its review of water use records for industrial, commercial and institutional water users, the inventory of the largest water users, copies of any outreach materials distributed to industrial, commercial and institutional water users, and to the extent practical, a summary of water use reductions or savings that have resulted. Upon receipt of this report, the Department will take whatever action it deems appropriate to promote the interests of the Water Management Act, including without limitation requiring Sandwich Water District to take additional actions to reduce industrial, commercial and institutional water use.</p>

<b><u>Lawn and Landscape</u></b>
1. Continue to implement and enforce Sandwich Water District's water use restriction bylaw as needed.
<b><u>Public Education and Outreach</u></b>
1. Continue to implement a Water Conservation Education Plan. Sandwich Water District's Water Conservation Education Plan shall be designed to educate Sandwich Water District's water customers of ways to conserve water. Without limitation, Sandwich Water District's plan may include the following actions: <ul style="list-style-type: none"><li>• Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings;</li><li>• Public space advertising/media stories on successes (and failures);</li><li>• Conservation information centers perhaps run jointly with electric or gas company;</li><li>• Speakers for community organizations;</li><li>• Public service announcements; radio/T.V./audio-visual presentations;</li><li>• Joint advertising with hardware stores to promote conservation devices;</li><li>• Use of civic and professional organization resources;</li><li>• Special events such as Conservation Fairs;</li><li>• Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and</li><li>• Make multilingual materials available as needed.</li></ul>
2. Upon request of the Department, Sandwich Water District shall report on its public education and outreach effort, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.

8. **Requirement to Report Raw and Finished Water Volumes**

Sandwich Water District shall report annually on its ASR the raw water volumes and finished water volumes for the entire water system and the raw water volumes for individual water withdrawal points.

**GENERAL CONDITIONS** (applicable to all permittees)

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw up to the authorized volume so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of the Department to enter and examine any property for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by the Department pursuant to MGL c 21G ss 15-17, MGL c 150 ss 111, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to a transfer application on forms provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The permittee shall submit annually, on a form provided by the Department, a certified statement of the withdrawal, such report to be received by the Department by January 31st of each year. Such report must be mailed or hand delivered to:

Department of Environmental Protection  
Drinking Water Program  
Water Management Program  
One Winter Street  
Boston, MA 02108

7. **Duty to Maintain Records** The permittee shall be responsible for maintaining monthly withdrawal records.
8. **Metering** All withdrawal points included within the permit shall be metered within one year of the date of issuance of the permit. OR (for existing metered withdrawal points) The withdrawal point(s) included within this permit are metered and shall be calibrated annually. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

### **APPEAL RIGHTS AND TIME LIMITS**

This permit is a decision of the Department. Any person aggrieved by this decision may request an adjudicatory hearing. Any such request must be made in writing, by certified mail and received by the Department within twenty-one (21) days of the date of receipt of this permit. No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail, or delivered by hand to the local water resources management official in the city or town in which the withdrawal point is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

### **CONTENTS OF HEARING REQUEST**

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of the Department is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of this permit.

### **FILING FEE AND ADDRESS**

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of \$100 must be mailed to:

Commonwealth of Massachusetts  
Department of Environmental Protection  
P.O. Box 4062  
Boston, MA 02211

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

### **EXEMPTIONS**

The filing fee is not required if the appellant is a city or town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

### **WAIVER**

The Department may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of the Department that the fee will create an undue financial hardship. A person, seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts which support the claim of undue hardship.

NO WITHDRAWAL IN EXCESS OF 100,000 GALLONS PER DAY OVER THE REGISTERED VOLUME (if any) SHALL BE MADE FOLLOWING THE EXPIRATION OF THIS PERMIT, UNLESS BEFORE THAT DATE THE DEPARTMENT HAS RECEIVED A RENEWAL PERMIT APPLICATION PURSUANT TO 310 CMR 36.00.



## **Appendix A – Residential Gallons Per Capita Day**

### **I. Compliance Plan Requirement**

If Sandwich Water District fails to document compliance with the RGPCD Performance Standard in its 2009 ASR, or in any ASR thereafter, then Sandwich Water District must file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

- a. meet the requirement set forth below in Section II;
- b. include measures to be implemented to meet the Performance Standard; and
- c. include the schedule for implementing such measures.

The filing of a RGPCD Plan shall not constitute a return to compliance, nor shall it affect the Department's authority to take action in response to Sandwich Water District's failure to meet the Performance Standard.

If a RGPCD Plan is required, Sandwich Water District must:

- a. submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD Plan annually at the time it files its ASR; and
- b. continue to implement the RGPCD Plan until it complies with the Performance Standard and such compliance is documented in Sandwich Water District's ASR for the calendar year in which the standard is met.

### **II. Contents of a Residential Gallons Per Capita Day Compliance Plan**

At a minimum, all RGPCD Compliance Plans must include a detailed:

- a. description of the actions taken during the prior calendar year to meet the Performance Standard;
- b. analysis of the cause of the failure to meet the Performance Standard;
- c. description and schedule of the actions that will be taken to meet the Performance Standard; and
- d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the Performance Standard.

RGPCD Plans may be amended to revise the actions that will be taken to meet the Performance Standard. Amended RGPCD Plans must include the information set forth in paragraph above.

At a minimum, all RGPCD Plans for failure to meet the RGPCD Performance Standard must include implementation of at least one of the following residential conservation programs:

- a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
- b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets); or
- c. the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems.

If Sandwich Water District is already implementing one or more of these programs, it must include in its RGPCD Plan the continued implementation of such program(s), as well as implementation of at least one additional program. All programs must include a public information component designed to inform customers of the program and to encourage participation in the program.

Without limitation, RGPCD Plans for failure to meet the RGPCD Performance Standard may include the following actions in addition to those outlined in the paragraph above:

- a. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
- b. a program that provides rebates or other incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems;
- c. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction include water saving devices and low water use appliances;
- d. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction minimize lawn area and/or irrigated lawn area, maximize the use of drought resistant landscaping, and maximize the use of top soil with a high water retention rate;
- e. the implementation of a program to encourage the use of cisterns or rain barrels for outside watering; and
- f. the implementation of monthly or quarterly billing.

## **Appendix B – Unaccounted for Water**

### **I. Compliance Plan Requirement**

If Sandwich Water District fails to document compliance with the UAW Performance Standard in its 2009 ASR, or in any ASR thereafter, then Sandwich Water District must file with that ASR an Unaccounted for Water Compliance Plan (UAW Plan) which shall:

- a. meet the requirements set forth below in Section II;
- b. include measures to be implemented to meet the Performance Standard; and
- c. include the schedule for implementing such measures.

The filing of a UAW Plan shall not constitute a return to compliance, nor shall it affect the Department's authority to take action in response to Sandwich Water District's failure to meet the Performance Standard.

If a UAW Plan is required, Sandwich Water District must:

- g. submit information and supporting documentation sufficient to demonstrate compliance with its UAW Plan annually at the time it files its ASR; and
- h. continue to implement the UAW Plan until it complies with the Performance Standard and such compliance is documented in Sandwich Water District's ASR for the calendar year in which the standard is met

### **II. Contents of an Unaccounted for Water Compliance Plan**

Sandwich Water District has the choice to file a UAW Plan with measures tailored to the specific needs of its water supply system (Individualized UAW Plan) or a UAW Plan that includes Best Management Practices (BMP UAW Plan).

At a minimum, all UAW Plans must include a detailed:

- a. description of the actions taken during the prior calendar year to meet the applicable Performance Standard;
- b. analysis of the cause of the failure to meet the Performance Standard;
- c. description and schedule of the actions that will be taken to meet the Performance Standard and
- d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standards.

UAW Plans may be amended to revise the actions that will be taken to meet the Performance Standard. Amended UAW Plans must include the information set forth in the paragraph above.

#### **Individualized UAW Compliance Plan**

Without limitation, Individualized UAW Compliance Plans for failure to meet the UAW Performance Standard may include any of the actions set forth in the BMP UAW Compliance Plan below.

#### **BMP UAW Compliance Plan**

At a minimum, all BMP UAW Plans for failure to meet the UAW Performance Standard must include all of the following actions:

- a. within one year of filing the UAW Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to the Department; within one year of

- completing the audit and leak detection survey, conduct sufficient repairs to reduce by 75% (by water volume) all leaks detected in the survey; and  
within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to reduce permittee's UAW to 10% or less;
- b. implementation of a program that ensures the inspection and evaluation of all water meters and, as appropriate, the repair, replacement and calibration of water meters in accordance with the following schedule:
- Large Meters (2" or greater) - within one year of filing the BMP UAW Plan
  - Medium Meters (1" or greater and less than 2") - within two years of filing the BMP UAW Plan
  - Small Meters (less than 1") – within three years of filing the BMP UAW Plan;
- c. implementation of monthly or quarterly billing within three years of filing the BMP UAW Plan; and
- d. within one year of filing the UAW Plan, implementation of a water pricing structure that achieves sufficient revenues to pay the full cost of operating the system including, without limitation, the costs of repairs under paragraph a., the costs of meter repairs, replacements and calibrations under paragraph b., the costs of employees and equipment, and ongoing maintenance and capital costs.